authorized to provide service in the United States.[21] If non-U.S. MSS systems are authorized to provide service in the 2 GHz band, then the foreign system operators should be required to contribute to any relocation of incumbent users. However, because the Commission may not have jurisdiction over non-U.S. systems until they seek operating authority, the Commission should develop a procedure which would require payment toward costs at the time the foreign applicant seeks an operating license.

When would relocation occur? Relocation should be timed to precede launch and operation dates. This, however, cannot be accomplished if the Commission permits reverse migration. MSS systems have milestones imposed by Commission rule. Launch dates must be scheduled years in advance. If a terrestrial user has the right to migrate back to its original facility and frequencies, based on its perception of whether the facilities are "equivalent," as the Commission proposes in the relocation procedure, the disruption would be tantamount to nullifying the MSS license.

As these questions illustrate, any attempt to apply the PCS relocation rules to MSS is doomed to failure and certain litigation. And, no easy solution is readily apparent. An FAC would be a far better vehicle to develop a model to apportion these costs.

The Commission is fortunate in that there is currently an eight to ten year

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[21] See Notice of Proposed Rulemaking, IB Docket No. 95-41, FCC 95-146, ¶ 39 (released April 25, 1995).

window, during which relocation would occur, and so, there is time to consider the unique circumstances presented by the proposed relocation, and to develop the most equitable manner in which to apportion costs. The parties to an FAC could develop a model which would ensure that no MSS licensee pays a disproportionate amount for clearing the bands, and no incumbent receives a disproportionate amount for construction of comparable facilities. The FAC could allocate costs of relocation to licensees and apportion expenses to incumbents who are being relocated. The FAC could also determine how to assign a share of the cost to non-U.S. systems which may seek access to the bands. Resolving these issues is critical to the success of the 2 GHz allocation. Moreover, unless and until these issues have been resolved, an auction is not likely to fulfill the statutory mandate of achieving a fair return to the public for spectrum use.

III. THE COMMISSION SHOULD DEFER CONSIDERATION OF SERVICE AND TECHNICAL RULES FOR 2 GHZ MSS UNTIL AFTER A DEFINITE ALLOCATION PLAN HAS BEEN ADOPTED.

The Commission requested comment on various issues concerning MSS operations in the 2 GHz bands. NPRM, ¶ 16. Given the uncertainty surrounding the specific bands which would be available for MSS, the date of entry into force of the allocation, and the relocation plans, consideration of service and technical rules are premature. LQP recommends that the Commission issue a separate Notice of Proposed Rule Making to address these issues after the allocation issues have been resolved. This was the procedure adopted for the MSS Above 1 GHz

service, and would be appropriate in this proceeding as well.[22]

A. Geostationary vs. Non-Geostationary Satellites

The Commission has requested comment on whether to allocate the 2 GHz spectrum for either or both geostationary and non-geostationary systems. NPRM, ¶ 16. In the proceeding to adopt service rules for MSS Above 1 GHz, the Commission developed a substantial record of the benefits of non-GSO systems over GSO systems.[23] However, at this early stage of the development of the 2 GHz allocation, LQP recommends that the Commission consider the issue of orbital height when it proposes rules for 2 GHz MSS Service.[24]

B. Geographic Coverage Standards

The Commission has also requested comment on whether there should be minimum geographic coverage standards for 2 GHz MSS. NPRM, ¶ 16. LQP notes that there is an international allocation for MSS at 2 GHz. Given the

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[22] Compare Big LEO Allocation Report and Order (ET Docket No. 92-28), 9 FCC Rcd at 536 with Big LEO Service Rules Report and Order (CC Docket No. 92-166), 9 FCC Rcd at 5936.

[23] See Report and Order (CC Docket No. 92-166), 9 FCC Rcd at 5944-46, ¶¶ 12-19.

[24] See Memorandum Opinion and Order, FCC 95-70 (released March 20, 1995) (clarifying that Big LEO allocation order addressed only matters related to allocation of spectrum and did not address eligibility of different types of MSS systems to operate in spectrum); Report and Order (ET Docket No. 92-28), 9 FCC Rcd at 539 (adopting MSS allocation in 1.6/2.4 GHz bands for both GSO and non-GSO systems).

variety of MSS system proposals, the Commission should reserve spectrum available on an international basis for systems proposing global operations. Spectrum which is only available in the United States or on a regional basis should be reserved for regional MSS systems. However, the existing 2 GHz allocation may be modified at WRC-95. Accordingly, LQP recommends that the Commission hold in abeyance consideration of a geographic coverage standard until the international MSS allocation at 2 GHz is clarified.

C. CDMA or TDMA or FDMA

The Commission also requested comment on specifying an access technology for MSS operations at 2 GHz. It is premature to decide this issue. The Commission should at least wait until applicants have proposed specific system designs before considering whether limitations on access methodology should be imposed. Accordingly, LQP recommends that the Commission seek comment on this issue in a Further NPRM for service and technical rules for 2 GHz MSS.

D. Power Limits

LQP also recommends that the Commission not attempt at this time to determine the appropriate power levels for the 2 GHz MSS. The power limits will depend, inter alia, upon the amount of spectrum available for licensees and the standards set by the ITU at future WRCs. Information concerning power limits which will enable sharing with the fixed-service could also be developed by an

FAC. Even if systems were to be licensed before 2000, there is sufficient time to consider appropriate power limits when more information is known about MSS operations at 2 GHz.

E. CELSAT's Hybrid PCS Allocation Proposal

LQP opposes Celsat's proposal for a hybrid PCS/MSS allocation because it does not appear to provide for an efficient use of spectrum. Celsat itself concedes that it has not proposed an "integrated" PCS/MSS system. Rather, Celsat's proposal requires that, within the hybrid service spectrum allocation, certain frequencies be assigned exclusively for MSS while others would be assigned exclusively for terrestrial service only. See Master System Application of Celsat, Inc., System Overview, at 5-6 (dated Apr. 8, 1994). Accommodating this proposal is neither necessary nor practicable because a dual-mode terminal can just as easily use spectrum allocated for PCS/cellular or MSS. It is a waste of scarce MSS spectrum to add yet another repetitive set of terrestrial cell sites to accommodate Celsat's proposal.

Moreover, Celsat's proposal is not feasible, because it would preclude other licensees from using an MSS band segment for MSS, where Celsat had decided to use the segment for terrestrial service. Adoption of Celsat's proposal would force all systems to use Celsat's impractical system design with frequency assignments made by Celsat. Until such time as the technology is available to provide truly "integrated" terrestrial and MSS service, the Commission should maintain the 2

GHz allocation for MSS only.

F. Feeder Link Frequencies

LQP agrees with the Commission that finding feeder link frequencies for 2 GHz MSS is a concern. NPRM, ¶ 16. The history of the Big LEO allocation indicates that this concern should be addressed by identifying and adopting sufficient allocations for MSS, with particular attention to frequencies which can be used as feeder links for non-geostationary MSS systems.

At WARC-92, an allocation was adopted for MSS user links but not MSS feeder links. Since that time, the Big LEO applicants and the Commission have expended substantial time and resources in attempting to satisfy the feeder link requirements of the non-geostationary MSS applicants.[25] Indeed, three years after WARC-92, the Commission has not yet assigned feeder link frequencies for the three Big LEO licensees, and the issue is to be considered at WRC-95.[26]

The feeder link concern can be addressed by promoting adoption of multiple MSS allocations. Currently, the Commission is working to develop proposals for WRC-95 which would accommodate allocations in multiple frequency bands for current and future MSS systems. LQP recommends that the Commission continue to promote adoption of multiple MSS allocations in frequencies which can be used as feeder links for MSS systems, particularly non-geostationary systems.

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[25] See Report and Order (CC Docket No. 92-166), 9 FCC Rcd at 5997-99.

[26] See id. at 5998.

IV. THE COMMISSION SHOULD AVOID MSS SPECTRUM AUCTIONS.

In the NPRM, the Commission provides "advance notice" that it intends to award licenses in the 2 GHz spectrum by competitive bidding. NPRM, ¶ 17. It suggests that the spectrum would be segmented on a national basis, and applicants would be required to apply for each separate segment which they wish to use. As LQP has previously noted,[27] there are sound reasons to avoid auctions for MSS spectrum in preference for development of engineering solutions to accommodate potential licensees. The Commission accomplished this objective for the MSS Above 1 GHz service,[28] and LQP recommends that it adapt the information developed in that proceeding for the award of 2 GHz MSS licenses.

The reasons for avoiding auctions for MSS can be illustrated by comparing the differences between terrestrial wireless and satellite services. First, there are no readily discrete auctionable market units for MSS as there are for terrestrial services. Unlike PCS and cellular services, MSS licenses cannot be awarded on a geographic basis, but as the Commission recognizes (NPRM, ¶ 17), must be awarded on a national basis. As a result, the Commission is forced to auction licenses in terms of spectrum segments. But, this form of auction is contrary to the public interest because it grants monopoly usage to MSS licensees and

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[27] See Loral/QUALCOMM's Comments (filed Nov. 10, 1993) and Reply Comments (filed Nov. 30, 1993) in PP Docket No.93-253.

[28] See Report and Order (CC Docket No. 92-166), 9 FCC Rcd at 5954-55.

discourages spectrum sharing and competition for MSS services to the public.[29]

Moreover, an MSS spectrum auction is much more complicated (for the Commission and applicants) because of the inherent diversity of satellite system proposals. Terrestrial wireless services are relatively uniform in terms of the facilities used to provide service to consumers; therefore, except for the population and geographic properties of a specific market, the business plans for each auctionable PCS unit are comparable. Applicants for terrestrial wireless systems therefore suffer no prejudice by having the Commission impose a particular form of auction.

MSS systems, on the other hand, are tailored to meet a much broader variety of business plans, for example, in terms of market to be served (domestic or international), degree of spectrum efficiency and frequency reuse within a geographic area, and services to be provided (handheld subscriber units vs. portable and vehicular units). As in the MSS Above 1 GHz proceeding, engineering solutions to accommodate a variety of satellite system proposals can be developed once their needs become known. But, if the Commission awards licenses by competitive bidding, it will force MSS applicants to adopt a business plan which conforms to the auction format. This would be inconsistent with the

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[29] The most "efficient and intensive use," 47 U.S.C. § 309(j)(3)(D), of the MSS spectrum is through multiple entry. See, e.g., International Satellite Systems, 101 FCC 2d 1046, 1086 ¶ 86 (1985); Radiodetermination Satellite Service, 58 RR 2d 1416, 1418 ¶ 5 (1985).

Commission's own preference not to intervene in satellite system business plans.[30]

These design decisions can be limited or frustrated by the adoption of an arbitrary spectrum-based auction format. When developing a satellite system, the operator must make many decisions which would have an impact on the "fit" between the Commission's auctionable spectrum unit and the perceived best technology for the business plan. These decisions include, for example, a channelization plan, an access technology which might require shared or exclusive spectrum use, and a desired coverage area. Selecting an arbitrary spectrum segment to become an auctionable unit would wreak havoc with these system design decisions because the Commission would be inherently imposing a certain system design on all applicants.[31]

LQP recommends that the Commission allow parties to file applications and consider potential engineering solutions before a decision is made to auction the spectrum. Without knowing what systems would be proposed for 2 GHz MSS, the Commission cannot determine now whether it would be possible to avoid mutual exclusivity by use of a negotiated or engineering solution. The Budget Act

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[30] See Notice of Proposed Rule Making (CC Docket No. 92-166), 9 FCC Rcd 1094, ¶ 11 (1994) ("When possible, we prefer to leave spacecraft design decisions to the space station licensees because the licensees are in a better position to determine how to tailor their systems to meet the particular needs of their customer base").

[31] The Commission has recognized that there is another reason for avoiding auctions for MSS spectrum to be assigned to global systems. An MSS auction may have the "unintended consequence" of imposing considerable costs on international satellite systems as a result of other administrations following the lead of the United States. See Notice of Proposed Rulemaking, 9 FCC Rcd at 1117, ¶ 44.

emphasizes that its grant of authority to assign licenses by competitive bidding does not relieve the Commission of its public interest obligation to seek to avoid mutual exclusivity in licensing proceedings.[32] Deferring the decision on auctions for 2 GHz MSS would be consistent with this goal.

[32] 47 U.S.C. § 309(j)(6)(E) states: "Nothing in this subsection, or in the use of competitive bidding, shall ... be construed to relieve the Commission of the obligation in the public interest to continue to use engineering solutions, negotiation, threshold qualifications, service regulations, and other means in order to avoid mutual exclusivity in application and licensing proceedings."

V. CONCLUSION

LQP recommends that the Commission adopt an allocation of at least 70 MHz for MSS at 2 GHz, and that it modify the proposals in the NPRM regarding such an MSS allocation to be consistent with the policies and procedures set forth in these comments.

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CERTIFICATE OF SERVICE

I, William D. Wallace, hereby certify that I have on this 5th day of May 1995, caused copies of the foregoing Comments to be delivered via hand delivery (indicated with *) or by U.S. mail, postage prepaid, to the following:

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